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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/553,552	04/20/2000	Robert S. Langer	0492611-0326(8151)	4483

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EXAMINER	
NGUYEN, DAVE TRONG	
ART UNIT	**PAPER NUMBER**
1632	

DATE MAILED: 02/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/553,552	LANGER ET AL.	
	Examiner	Art Unit	
	Dave T Nguyen	1632	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12/03/2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12,14-32,35,39,41,42 and 44-52* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12,14-32,35,39,41,42 and 44-52* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Claims 1, 5, 12, 14, 17, 18, 39, 41, 42, 44, and 46 have been amended, claim 47-52 have been added by the amendment filed December 2, 2003.

Claims 1-12, 14-32, 35, 39, 41, 42, 44-52 are pending for examination.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. § 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-4, 10-11, 14-17, 20-30, 32, 35, 39, 42, 45, 49-52, readable on a genus of endosomolytic agents, when read in light of the as-filed specification (page 6), clearly exclude known endosomolytic agents (i.e., chloroquine, fusogenic peptides, inactivated adenoviruses and polyethyleneimine), wherein the agents must exhibit an endosomolytic activity in response to a change in pH, are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

All presently pending claims new embrace any polymer comprising an endosmolytic polymer not known in the prior art at the time the invention was made (i.e., chloroquine, fusogenic peptides, inactivated adenoviruses and polyethyleneimine), and one or more hydrolysable functional moieties selected from the group consisting of ortho-esters, hydrazone, and cis-acetonyl, wherein said polymer due to the presence

the endosomolytic agent is capable of effecting the lysis of an endosome in response to a change in pH.

The as-filed specification only provides sufficient written description of an endosomolytic polymer comprising monomers having ionizable functional moieties, which comprise proton acceptor sites, operably linked to one or more hydrolysable functional moieties selected from the group consisting of ortho-esters, hydrazones, and cis-acetonyl, wherein said polymer is capable of effecting the lysis of an endosome in response to a change in pH. More specifically, the as-filed specification provides two examples of such ionizable functional moieties, *e.g.,* N-methacryloyl-L-histidine and ethanol (pages 4, 6, 7, 8, and working examples). However, the claims are broadly drawn to any polymer comprising any endosomolytic agent, which are yet to be discovered, and one or more hydrolysable functional moieties (ortho-esters, hydrazones, and cis-acetonyl), wherein the hydrolysable functional moieties are not even required to be monomers or part of the endosomolytic agent. The compounds composed of just ortho-esters, hydrazones, and cis-acetonyls do not *per se* exhibit the endosomolytic activity, which is the essential feature of the invention. Thus, it is apparent that the main thrust of the presently pending claimed invention, which meets the written description requirement, is a combination of monomers composed of ortho-esters, hydrazones, and cis-acetonyls functionally linked to monomers having ionizable functional moieties, which contain proton acceptor sites. A close review of the as-filed specification only leads a skilled artisan to the invention of an endosomolytic polymer comprising a combination of monomers composed of ortho-esters, hydrazones, and cis-

acetonyls functionally linked to monomers having ionizable functional moieties, which contain proton acceptor sites. The description of a endosomolytic polymer comprising a combination of monomers composed of ortho-esters, hydrazones, and cis-acetonyls functionally linked to monomers having ionizable functional moieties is not the same as claiming a genus of endosomolytic agents which are generically claimed as to be contained in a polymer, which must exhibit the property of being able to complex with a substance to be delivered into a cell, to transfect a cell through the endosome at a size of less than 150 nm, and to exhibit an endosomolytic activity subsequently thereby releasing the substance into the cytoplasm in an intact form and sufficient amount of the substance for any beneficial utility.

With respect to the subgenus of 3/ which is embraced by the genus of 1/, the specification also does not provide sufficient written description of specific structure(s) and formula of polymeric nanoparticles comprising monomers having one or more hydrolyzable functional moieties which exhibit a hydrophobic/hydrophilic transition in response to a change in pH, and one or more ionizable functional moieties, which moieties must function to increase the hydrophilicity of the polymeric nanoparticle by protonation in the endosome to the extent that the moieties exhibit an endosomolytic activity (page 9 of the specification).

With respect to claims readable on a genus of packaging agents (claim 17) that must exhibit the biological activity of complexing directly or indirectly with the compounds of 1/ and of packaging and delivering a desire molecule to the cytoplasm of a target cell, the as-filed specification only provides sufficient description of packaging

agents composed of cationic polymers either copolymerized with the sufficiently described endosomolytic polymer or forming a mixture with the endosomolytic polymer.

In view of the reasons set forth in the preceding paragraphs, it is apparent that on the basis of applicant's disclosure, an adequate written description of the invention defined by the claims requires more than a mere statement that it is part of the invention and reference to potential methods and/or assays (page 11 of the specification) and/or any other unspecified structure containing unspecified compounds and/or packaging agents that are only described by functional language, wherein the detailed and common structure of the genera of the claimed compounds was not described; what is required is the knowledge in the prior art and/or a description as to the availability of a representative number of species of biochemical or molecular structure(s) of component(s) that are linked structurally in order to exhibit the disclosed biological functions as contemplated by the as-filed specification.

It is not sufficient to support the present claimed invention directed to agents(s) with no chemical structure as claimed in the presently pending claims because disclosure of no more than that, as in the instant case, is simply a wish to know the identity of any and/or all other material(s) of agents other than those known in the prior art, as admitted by the as-filed specification, having the biological functions as contemplated by the specification and the claims. The claimed invention as a whole is not adequately described if the claims require essential or critical elements which are not adequately described in the specification and which is not conventional in the art as of applicants effective filing date. Claiming unspecified molecular structures of

material(s) as endosomolytic agents and/or packaging agents, which must possess the biological properties (importing a desire molecule through the endosome to the cytoplasm of a target cell as a result of endosomolysis) as contemplated by applicant's disclosure without defining what means will do so is not in compliance with the written description requirement. Rather, it is an attempt to preempt the future before it has arrived. (See *Fiers v. Revel*, 25 USPQ2d 1601 (CA FC 1993) and *Regents of the Univ. Calif. v. Eli Lilly & Co.*, 43 USPQ2d 1398 (CA FC, 1997)). Possession may be shown by actual reduction to practice, clear depiction of the invention in a detailed drawing, or by describing the invention with sufficient relevant identifying characteristics such that a person skilled in the art would recognize that the inventor had possession of the claimed invention. Pfaff v. Wells Electronics, Inc., 48 USPQ2d 1641, 1646 (1998). The skilled artisan cannot envision the detailed structure structure(s) of material(s) other than , as contemplated and asserted by the as-filed specification to the extent that those polymeric nanoparticles once formed would exhibit the contemplated biological functions (importing and endosomolytic activities), and therefore, conception is not achieved until reduction to practice has occurred, regardless of the complexity or simplicity of the structures and/or methods disclosed in the as-filed specification.

Thus, in view of the reasons set forth above, one skilled in the art at the time the invention was made would not have recognized that applicant was in possession of the claimed invention as presently claimed.

Claims 1-12, 14-32, 35, 39, 41, 42, 45, 46 are rejected under 35 U.S.C. 112, first paragraph, because the specification is enabling only for claims limited to:

1) An endosomolytic polymer comprising monomers having ionizable functional moieties operably linked to one or more hydrolysable functional moieties comprising an ortho-ester, hydrazones, and cis-acetonyl functional group, and wherein said polymer is capable of effecting the lysis of an endosome in response to a change in pH;
2) A composition comprising a polymeric carrier and the polymer of 1/;
3) A cell delivery composition comprising the polymer of 1/ and a compound to be delivered to a cell;
4) A method of employing the endosomolytic polymer of 1/ to lyse an endosome; and
5) A method of delivery a compound to a cell comprising administering the composition of 3/ to a cell.
6) A method for introducing a nucleic acid into a cell, the method comprising delivery to a cell a biocompatible delivery composition comprising a polymeric carrier, which comprises a nucleic acid and the endosomolytic polymer of 1), wherein the nucleic acid is delivered into the endosome of the cell and subsequently released from the endosome into the cytoplasm of said cell.
7) A polymeric nanoparticle comprising ethanol as an endosomolytic compound and one or more hydrolysable functional moieties comprising an ortho-ester, hydrazones, and cis-acetonyl functional group, wherein the one or more hydrolysable functional moieties are operably linked to the polymeric

nanoparticle, and wherein said polymer is capable of effecting the lysis of an endosome in response to a change in pH.

The specification does not reasonably provide enablement for the presently pending claims encompassing any and/or all structure other than those as indicated in the enabling embodiments. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims.

Specifically, since the claimed invention is not supported by a sufficient written description (for possessing of the genus of endosomolytic agents and/or packaging agents), particularly in view of the reasons set forth above, one skilled in the art would not known how to make and use the claimed invention so that it would operate as intended, *e.g.* functions as a delivery vector to deliver any compound to the cell cytoplasm intact through an endosome of cell targeted for delivery. Additionally, while claim 46 specifically claims that the endosomolytic agent is ethanol, the claims embraces embodiments wherein the hydrolysable functional groups are not necessarily to be operably linked to the polymer that contains ethanol as an endosomolytic compound. On page 8, the as-filed specification appears to only provide sufficient guidance for a skilled artisan to construct polymeric nanoparticles comprising a polymer operably linked to any of the claimed hydrolysable functional group so as to encapsulate ethanol, and only when the nanoparticles are in the endosome, the employed hydrolysable functional group hydrolyses, releases the endosomolytic compound

ethanol, and this is transformed into a hydrophilic diol functionality which is capable of effecting escape from the endosomal compartment into the cytoplasm. Further, claim 42 embraces targeted delivery of a nucleic acid into any subcellular component other than the endosome, however, the entire as-filed specification only provides sufficient guidance for teaching the delivery of a nucleic acid choice into the cytoplasm from the endosome after endocytosis.

As such, it is not apparent how a skilled artisan practices the full breadth of the claimed invention without any undue experimentation.

Claims 1-12, 14-32, 35, 39, 41, 42, 44-52 are rejected over PACK taken with taken with Thorpe (US Pat No. 5,762,918).

The main thrust of the invention is a cell delivery composition comprising a polymeric carrier comprising any biologically active agent such as a nucleic acid and an endosomal lysing polymer, wherein the endosomal lysing polymer comprises ionizable functional moieties operably linked to one or more hydrolysable functional moieties comprising an ortho-ester, hydrazones, and cis-acetonyl functional group.

PACK *et al.* claims a cell delivery composition comprising a polymeric carrier, which comprises an endosomolytic polymer having ionizable functional moieties or monomers, and a biological active agent such as drugs and nucleic acids, wherein the polymer can be funtionalized so as to link to any desire polymer or factor, and wherein the polymeric carrier can be biocompatible and/or biodegradable mixed, linear, branched, or dendritic copolymers, *e.g.,* see the claims. The polymer carrier or delivery

composition of PACK *et al.* also can be constructed so as to have any desired targeting agent.

PACK *et al.* does not teach and claim that the endosomal lysing agent can be operably linked to a hydrolysable or acid-labile functional group such as an ortho-ester, hydrazine or cis-acetonyl functional group.

However, at the time the invention was made, the concept of utilizing a hydrolysable or acid-labile functional group such as an ortho-ester, hydrazine or cis-acetonyl functional group so as to enhance the release of a biologically active agent from a delivery carrier is known in the prior art, as exemplified in Thorpe. More specifically, Thorpe teaches on column 19 that "the presence of such a bond would allow the generally-stable conjugate to be hydrolysed only under certain conditions, such as on exposure to an acidic pH". Thorpe further states on column 19:

> T[t]he presence of the acid-labile bond would then allow the release of the selected agent from such acid intracellular compartments. The selected agents, such as steroids, would then be free to exert their effects only when inside the target cells, and would be otherwise maintained in an active state whilst circulating the body.

A variety of acid-labile bonds could be employed to join the targeting component of a conjugate to the selected agent.

With respect to some examples of known acid-labile functional groups, Thorpe states on column 20:

Further acid-labile bonds that could be employed in accordance with the present invention incorporate ortho ester, acetal and ketal functionalities that undergo acid-catalyzed dissociation but are base-stable; and cis-aconitic.

In addition, Thorpe teaches on column 9:

Typical acid-labile linkages believed to be useful in connection with the present invention include those that employ a Schiff's base linkage, for example, linkages incorporating the condensation product of an aldehyde or ketone with a hydrazine, a hydrazine, a primary or secondary amine or their derivatives.

As such, it would have been obvious for one of ordinary skill in the art to further associate or functionally link any known acid-labile functional group such as an ortho-ester, hydrazine, or cis-acetonyl or cis-acetonitic to the endosomolytic polymer as claimed in PACK *et al.* One of ordinary skill in the art would have been motivated to do so because the concept of utilizing a hydrolysable or acid-labile functional group such as an ortho-ester, hydrazine or cis-acetonyl functional group so as to enhance the release of a biologically active agent from a delivery carrier is known in the prior art, as exemplified in Thorpe.

To the extent that the combined cited prior art does not teach poly-orthoester comprising the tertiary amine groups composed of N-[2-methyl-1,3-O-ethoxyethylidineproanediol]methacrylamide, it would have been obvious to one of

ordinary skill in the art as a matter of design choice to have employed poly-orthoesters comprising N-[2-methyl-1,3-O-ethoxyethylidineproanediol]methacrylamide as an acid-labile functional group to enhance the delivery and release of a biologically active agent from the endosome into the cytoplasm of a target cell because the monomer N-[2-methyl-1,3-O-ethoxyethylidineproanediol]methacrylamide, as evidenced by the as-filed specification, is available in the prior art, and because Thorpe teaches that any poly-orthoesters comprising tertiary amine groups would release insulin in response to a change in pH

Thus, the claimed invention was *prima facie* obvious.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-12, 14-32, 35, 39, 41, 42, 44-52 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable

over claim of copending Application No. 09/251,783 taken with Thorpe (US Pat No. 5,762,918).

Although the conflicting claims are not identical, they are not patentably distinct from each other because:

The main thrust of the invention is a cell delivery composition comprising a polymeric carrier comprising any biologically active agent such as a nucleic acid and an endosomal lysing polymer, wherein the endosomal lysing polymer comprises ionizable functional moieties operably linked to one or more hydrolysable functional moieties comprising an ortho-ester, hydrazones, and cis-acetonyl functional group.

PACK *et al.* claims a cell delivery composition comprising a polymeric carrier, which comprises an endosomolytic polymer having ionizable functional moieties or monomers, and a biological active agent such as drugs and nucleic acids, wherein the polymer can be funtionalized so as to link to any desire polymer or factor, and wherein the polymeric carrier can be biocompatible and/or biodegradable mixed, linear, branched, or dendritic copolymers, *e.g.,* pages 24-34, claims 1-92. The polymer carrier or delivery composition of PACK *et al.* also can be constructed so as to have any desired targeting agent.

PACK *et al.* does not teach and claim that the endosomal lysing agent can be operably linked to a hydrolysable or acid-labile functional group such as an ortho-ester, hydrazine or cis-acetonyl functional group.

However, at the time the invention was made, the concept of utilizing a hydrolysable or acid-labile functional group such as an ortho-ester, hydrazine or cis-

acetonyl functional group so as to enhance the release of a biologically active agent from a delivery carrier is known in the prior art, as exemplified in Thorpe. More specifically, Thorpe teaches on column 19 that "the presence of such a bond would allow the generally-stable conjugate to be hydrolysed only under certain conditions, such as on exposure to an acidic pH". Thorpe further states on column 19:

> T[t]he presence of the acid-labile bond would then allow the release of the selected agent from such acid intracellular compartments. The selected agents, such as steroids, would then be free to exert their effects only when inside the target cells, and would be otherwise maintained in an active state whilst circulating the body.

A variety of acid-labile bonds could be employed to join the targeting component of a conjugate to the selected agent.

With respect to some examples of known acid-labile functional groups, Thorpe states on column 20:

> Further acid-labile bonds that could be employed in accordance with the present invention incorporate ortho ester, acetal and ketal functionalities that undergo acid-catalyzed dissociation but are base-stable; and cis-aconitic.

In addition, Thorpe teaches on column 9:

Typical acid-labile linkages believed to be useful in connection with the present invention include those that employ a Schiff's base linkage, for example, linkages incorporating the condensation product of an aldehyde or ketone with a hydrazine, a hydrazine, a primary or secondary amine or their derivatives.

As such, it would have been obvious for one of ordinary skill in the art to further associate or functionally link any known acid-labile functional group such as an ortho-ester, hydrazine, or cis-acetonyl or cis-acetonitic to the endosomolytic polymer as claimed in PACK *et al.* One of ordinary skill in the art would have been motivated to do so because the concept of utilizing a hydrolysable or acid-labile functional group such as an ortho-ester, hydrazine or cis-acetonyl functional group so as to enhance the release of a biologically active agent from a delivery carrier is known in the prior art, as exemplified in Thorpe.

To the extent that the combined cited prior art does not teach poly-orthoester comprising the tertiary amine groups composed of N-[2-methyl-1,3-O-ethoxyethylidineproanediol]methacrylamide, it would have been obvious to one of ordinary skill in the art as a matter of design choice to have employed poly-orthoesters comprising N-[2-methyl-1,3-O-ethoxyethylidineproanediol]methacrylamide as an acid-labile functional group to enhance the delivery and release of a biologically active agent from the endosome into the cytoplasm of a target cell because the monomer N-[2-methyl-1,3-O-ethoxyethylidineproanediol]methacrylamide, as evidenced by the as-filed specification, is available in the prior art, and because Thorpe teaches that any poly-

orthoesters comprising tertiary amine groups would release insulin in response to a change in pH

Thus, the examined claims and the claims of the co-pending application are obvious variants of one another.

The examiner acknowledges the telephone interview held between the examiner and Attorney Hunter Baker on October14, 2003.

Applicant's response (pages 10-11) has been considered by the examiner. However, the response is not sufficient to remove the rejection under 35 USC 112, first paragraph. Claim 1 as amended is not sufficient to meet the written description requirement. Applicant mainly asserts that by describing ethanol and an ionizable functional moiety composed of a proton acceptor site, the application meets the written description requirement for the base claims 1, 17, 32, 39, and 42. However, and while newly amended claim 5 or 46, for example, meets the written description requirement, applicant's assertion and the amendment to other claims are not found persuasive, particularly in view of the reasons set forth in the stated rejection. Furthermore, claim 17, claims generically a packaging agent that must exhibit the property of mediating the import of a therapeutic agent into endosomes. The issue of the packaging agent is also address in the stated office action, however, applicant's response does not appear to reflect the issue.

Applicant's 1.132 Declaration by Dr. Langer has been considered by the examiner, but is not found persuasive for the removal of the PACK et al. rejection under

(see the oath of the copending application)

35 USC 103, since there is evidence of record to indicate that the inventors of the PACK reference are also the inventors of the claimed invention drawn to a cell delivery composition comprising a polymeric carrier, which comprises an endosomolytic polymer having ionizable functional moieties or monomers, and a biological active agent such as drugs and nucleic acids, wherein the polymer can be funtionalized so as to link to any desire polymer or factor, and wherein the polymeric carrier can be biocompatible and/or biodegradable mixed, linear, branched, or dendritic copolymers

No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner *Dave Nguyen* whose telephone number is **571-272-0731**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, *Amy Nelson*, may be reached at **571-272-0184.**

Papers related to this application may be submitted to Group 1600 by facsimile transmission. Papers should be faxed to Group 1600 via the PTO Fax Center number, which is **703-872-9306.**

Any inquiry of a general nature or relating to the status of this application should be directed to the *Group receptionist* whose telephone number is **(703) 308-0196**.

Dave Nguyen
Primary Examiner
Art Unit: 1632

Dave

DAVE T. NGUYEN
PRIMARY EXAMINER